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Hemin blunts the depressant effect of chronic nicotine on reflex tachycardia via activation of central NOS/PI3K pathway in female rats

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Abstract

Background. Chronic nicotine administration impairs reflex chronotropic responses that follow arterial baroreceptor unloading in female rats with repleted, but not depleted (ovariectomized, OVX), estrogen (E_2). This study investigated whether products of nitric oxide synthase (NOS) and/or heme oxygenase (HO) and related soluble guanylate cyclase (sGC)/phosphatidylinositol 3-kinase (PI3K)/mitogen-activated protein kinases (MAPKs) signaling mediate the E_2-sensitive depressant effect of nicotine on reflex tachycardia.